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THESIS

**ELECTRONIC COMMERCE: CASE ANALYSES AND TOOLS
UTILIZED IN THE ACCOMPLISHMENT OF BUYING
ACTIVITIES WITHIN THE DEPARTMENT OF DEFENSE**

by

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September 2004

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IN THE ACCOMPLISHMENT OF BUYING ACTIVITIES WITHIN THE
DEPARTMENT OF DEFENSE**

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ABSTRACT

This study examines the significant issues relative to Ecommerce, how it has resulted in protests, disputes and litigations in the Federal acquisition process. How Ecommerce has evolved since the mandate in October 1993 by former President Clinton and in particular how it relates to the Department of Defense Acquisition Workforce. It specifically addresses the traditional acquisition process versus the contemporary as it relates to Electronic Commerce and the tools utilized by the Acquisition Workforce to accomplish their buying activities.

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TABLE OF CONTENTS

I.	INTRODUCTION	1
A.	PURPOSE	1
B.	BACKGROUND	3
C.	DEFINITIONS	5
	1. Electronic Commerce (Ecommerce)	5
	2. Electronic Data Interchange (EDI)	5
	3. Electronic Business (eB)	5
	4. Federal Business Opportunities (FedBizOpps)	6
	5. Government-wide Point of Entry (GPE)	6
D.	RESEARCH QUESTIONS	6
	1. Primary Research Question	6
	2. Secondary Research Questions	7
E.	SCOPE	7
F.	METHODOLOGY	7
G.	ORGANIZATION OF STUDY	8
H.	BENEFITS OF STUDY	8
II.	EVOLUTION AND DEVELOPMENT OF ECOMMERCE	9
A.	INTRODUCTION	9
B.	BACKGROUND: EVOLUTION OF ELECTRONIC COMMERCE	9
C.	CONTRACTING CONTINUUM	17
	1. Requirements	17
	2. Solicitation.....	18
	3. Evaluation/Award.....	19
	4. Post Award	19
	5. Contract Pay	19
	6. Contract Closeout	20
D.	UTILIZATION OF DOD ECOMMERCE TOOLS	20
	1. Wide Area Workflow	21
	2. Ecommerce Tools - Solicitation Phase	21
	a. Central Contractor Registration	21
	b. Federal Business Opportunities	21
	c. Federal Technical Data Solution	22
	3. Ecommerce Tools - Post-Award Phase	22
	a. Past Performance Information Retrieval System	22
	b. Electronic Document Access	23
	4. Defense of Defense Electronic Mall (DOD EMALL)	23
E.	CHAPTER SUMMARY	24
III.	ECOMMERCE: CASE REVIEWS	25
A.	INTRODUCTION	25

B.	DATA COLLECTION	25
C.	GENERAL ACCOUNTING OFFICE PROTEST CASES	27
1.	Matter of: GROH GmbH, Case Number B-291980, March 26, 2003	27
2.	Matter of: USA Information (USAInfo) Systems,Case Number B-291488, December 2, 2002	28
3.	Matter of: Performance Construction, Inc., Case Number B-286192, October 30, 2000	29
4.	Matter of: S.D.M. Supply, Inc., Case Number B-271492, June 26, 1996	31
D.	BOARD OF CONTRACT APPEALS CASE	34
1.	Matter of: Total Procurement Services, Inc. v Department of the Army, GSBCA Number 13569-P, May 23, 1996	34
IV.	ECOMMERCE - CASE ANALYSIS	37
A.	INTRODUCTION	37
B.	CASE ANALYSIS	38
1.	Protests - Alleged Mishandling of Proposals or Untimely Receipt Relative to Systemic or Infrastructure Problems	38
a.	Matter of: S.D.M. Supply, Inc., Case Number B-271492, June 26, 1996	38
b.	Matter of: Department of the Army - Reconsideration, Case Number B-271492.2, ... November 27, 1996	41
c.	Matter of: GROH GmbH, Case Number B- 291980,March 26, 2003	42
2.	Protests - The Result of Not Maximizing the Utility of Features Available Through the Ecommerce Medium	43
a.	Matter of: USA Information Systems, Inc., Case Number B-291488, December 2, 2002	43
b.	Matter of: Performance Construction, Inc., Case No. B-286192, October 30, 2000	44
3.	Protest - Misinterpretation of Regulatory Requirement Pertaining to the Uniform Procurement Instrument Identification	45
a.	Matter of: Total Procurement Services, Inc. v.Department of the Army, ASBCA No. 13569-P, May 23, 1996	45
V.	CONCLUSIONS AND RECOMMENDATIONS	47
A.	INTRODUCTION	47

B. ANSWERS TO RESEARCH QUESTIONS	47
1. Primary Research Question	47
2. Secondary Research Questions	48
LIST OF REFERENCES	57
INITIAL DISTRIBUTION LIST	63

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LIST OF FIGURES

Figure1.	Timeline: Evolution of Ecommerce within the Federal Government. Developed by the researchers .10
Figure2.	Traditional Procurement Process and the application of Ecommerce Tools (From: Ref 16)20

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LIST OF TABLES

Table 3.1 - Summary of Data. Developed by the researchers. .26
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I. INTRODUCTION

A. PURPOSE

In the age of what one could call the electronic revolution, it is important to recognize its major tenets, especially as they relate to our economy. In general terms this electronic economy has three primary components: infrastructure (what supports the concept), electronic business or e-business processes (how the business is conducted), and electronic commerce (Ecommerce) (the actual buying and selling). [Ref 1] Examples of the infrastructure include computers, routers, and other hardware. Examples of e-business processes are customer focused processes including marketing, electronic selling, processing of customer orders and payments, and customer management and support. Ecommerce examples include actions as simple as an individual withdrawing funds from an automatic teller machine, or purchasing a book on the internet, a business buying supplies on-line or through an electronic auction, or a Government employee buying goods and services with a purchase card.

The fact that many Ecommerce transactions go through the Internet, it is also referred to as I-commerce. [Ref 1] With the various terms that are synonymous with Ecommerce there are also differing definitions of this term. For purposes of this paper we will discuss Ecommerce in terms of the ability to interchange and process information using electronic techniques. This thesis examines significant issues relative to Ecommerce and how it has resulted in protests, disputes and litigation in the

Federal acquisition process. The thesis also outlines how it has evolved since the mandate for its usage in October 1993 by former President William Jefferson Clinton [Ref 2], and in particular how it relates to the Department of the Defense (DoD) Acquisition Workforce. The study will examine the traditional procurement process and determine what Ecommerce tools are presently available and how DoD's Acquisition Workforce can capitalize on the usage. It examines the regulatory requirements associated with Ecommerce and assesses how the use of Ecommerce can become a more beneficial tool to the DoD's Acquisition Workforce. Additionally, case analyses were performed as a result of reviewing several Comptroller General, Agency Board of Contract Appeals (BCA), and Federal Court of Claims (FCoC) decisions relative to Ecommerce.

It should also be noted that throughout this paper the use of the terminology "acquisition" and "procurement" are used interchangeably in that, acquisition begins at the point when agency needs are established and includes the description of requirements to satisfy agency needs, solicitation and selection of sources, award of contracts, contract financing, contract performance, contract administration, and those technical and management functions directly related to the process of fulfilling agency needs by contract. Procurement is all of the stages involved in the process of acquiring supplies or services, beginning with the determination of a need for supplies or services and ending with contract completion or closeout. However, in other cases the use of the terms may be as stated in reference materials or the actual name of an application or system. [Ref 3]

B. BACKGROUND

President Clinton initially mandated the use of Ecommerce in October 1993 for executive branch agencies and departments. [Ref 2] In an effort to streamline the acquisition process and to improve upon the way the Government conducts business, Congress passed the Federal Acquisition Streamlining Act (FASA) of 1994 a year later. [Ref 2] The FASA required the entire Federal Government to adopt Ecommerce procedures within a five-year period and conditioned the authority to use the \$100,000 simplified acquisition threshold for new procurements to be contingent upon developing and adopting an electronic system for providing notices of procurement requirements and receiving responses thereto. [Ref 4]

Additionally, on October 30, 1998 the Federal Register issued an interim rule entitled, "Federal Acquisition Regulation: Electronic Commerce in Federal Procurement." The objectives of the rule were to (1) promote the use of cost effective procedures and processes that employ Ecommerce in the conduct and administration of Federal procurement systems and (2) apply nationally and internationally recognized standards that broaden interoperability and ease electronic interchange of information. [Ref 5]

Conducting business within the Federal Government has transitioned from manually typing solicitations and contractual documents to generating documents through the Procurement Automated Data and Document System (PADDS) and forwarding the award directly to the contractor by electronic transmission versus the traditional mailings

through the U.S. Postal Service. Business transactions with the Federal Government have evolved with the utilization of a variety of Ecommerce tools such as Government Purchase Card (GPC) to procure items under the \$2,500 micro-purchase threshold. The GPC is a commercial credit card issued to Government employees for official purchases. According to a March 1999 Defenselink News Release entitled "Secretary Cohen Outlines 1999 Update on Defense Reform Releases "Partnering for Excellence" CD-ROM", prior to the implementation of the purchase card, buying supplies and services valued under \$2,500 was labor and paper intensive, often requiring numerous approvals. [Ref 6] The utilization of Ecommerce processes and procedures has become a strategic means of announcing potential requirements. For example, the Federal Business Opportunity (FEDBizOpps) formerly Commerce Business Daily (CBD) makes solicitations and awards available through the Internet. FEDBizOpps is further explained later in this chapter.

Ecommerce has become the primary source of communication, the method used to notify interested contractors of Federal requirements, the means of procuring goods and services, and the manner by which solicitations and awards are distributed. It is also the instrument utilized to make payments for the goods and services rendered.

C. DEFINITIONS

The following definitions will help facilitate the reader's understanding of Ecommerce, as well as the processes and cases discussed within this thesis:

1. Electronic Commerce (Ecommerce)

According to the Federal Register, electronic commerce is a means to use electronic techniques for accomplishing business transactions including electronic mail (email) or messaging, World-Wide-Web technology, electronic bulletin boards, purchase cards, electronic funds transfer, and electronic data interchange. [Ref 5]

2. Electronic Data Interchange (EDI)

Electronic Data Interchange is the computer-to-computer electronic exchange of business information using a public standard. In other words, EDI is an enabling system of protocol that powers the flow of information in a paperless environment by using standards that are the products of consensus between Government and Industry. The EDI information exchange occurs between Government entities and Trading Partners which is an organization or individual with whom information or data is accessed or exchanged. The term trading partner includes private industry, academia, and Government activities. [Ref 2]

3. Electronic Business (eB)

Electronic Business refers to all forms of individual and organizational commercial transactions based on the processing and transmission of digitized data including text, sound, and visual images. One of the most familiar

and a powerful manifestation of the eB is the Internet. Simply put eB is conducting business on-line. [Ref 2]

4. Federal Business Opportunities (FedBizOpps)

Federal Business Opportunities is the single government point-of-entry (GPE) for Federal government procurement opportunities over \$25,000. Government buyers are able to publicize their business opportunities by posting information directly to FedBizOpps via the Internet. Through one portal, commercial vendors seeking Federal markets for their products and services can search, monitor and retrieve opportunities solicited by the entire Federal contracting community. [Ref 7]

5. Government-wide Point of Entry (GPE)

The single point where Government business opportunities greater than \$25,000, including synopses of proposed contract actions, solicitations, and associated information, can be accessed electronically by the public. The GPE is located at <http://www.fedbizopps.gov>. [Ref 8]

D. RESEARCH QUESTIONS

1. Primary Research Question

Has the usage of Ecommerce, as an innovative contracting method, resulted in contract protests, disputes, and litigations when applied to the Department of Defense acquisitions?

2. Secondary Research Questions

a. How has Ecommerce evolved since its mandate in October 1993, particularly as it relates to the Department of Defense?

b. Is there a commonality or trend in the protest and litigation cases associated with using Ecommerce?

c. Are there benefits relative to the usage of Ecommerce Tools?

E. SCOPE

The scope of this thesis includes: (1) a review of how Ecommerce has evolved over the past decade by reviewing cases, regulatory requirements, handbooks, and other articles and documents associated with Ecommerce; (2) an examination of the migration path to Ecommerce at the DoD Acquisition Centers; and (3) conclusions, recommended areas for further study. Though efforts were made to identify Ecommerce cases heard as a result of the Alternative Dispute Resolution (ADR) process none were identified.

F. METHODOLOGY

The following methodologies will be utilized: (1) semi-structured interviews, (2) research of various cases and websites, and (3) studying the various forms of Ecommerce. None of the Ecommerce cases researched utilized the Alternative Dispute Resolution (ADR) process.

G. ORGANIZATION OF STUDY

Following this opening chapter, Chapter II provides a background on the evolution and development of Ecommerce within the DoD.

Chapter III consists of data presentation which was obtained as a result of researching various cases relative to Ecommerce in the realm of Comptroller General Decisions, Agency Board of Contract Appeals (BCA) and Federal Court of Claims.

Chapter IV provides an in-depth analysis of common themes discovered throughout the cases presented in Chapter III.

Finally, Chapter V summarizes the research findings, answers research questions, and provides conclusions and recommendations for further study.

H. BENEFITS OF STUDY

This thesis provides a useful assessment of Ecommerce for acquisition professionals within the Department of Defense. It identifies the benefits and problems associated with the usage of Ecommerce in layman's terms.

II. EVOLUTION AND DEVELOPMENT OF ECOMMERCE

A. INTRODUCTION

This chapter provides background information on the research required for this thesis. Also in this chapter the evolution and development of the mandate to utilize Ecommerce within the DoD will be discussed. The six traditional cycles of the procurement process will be reviewed to allow the reader an opportunity to gain a better understanding of DoD's buying practices. A comparison of how Ecommerce tools are utilized within the procurement process will also be provided.

B. BACKGROUND: EVOLUTION OF ELECTRONIC COMMERCE

Figure 1 represents a timeline which demonstrates how guidance and regulatory requirements have evolved into eventually changing the way the Acquisition Workforce transitioned from the conventional contracting methods to the use of Ecommerce tools.

Timeline: Evolution of Ecommerce within the Federal Government

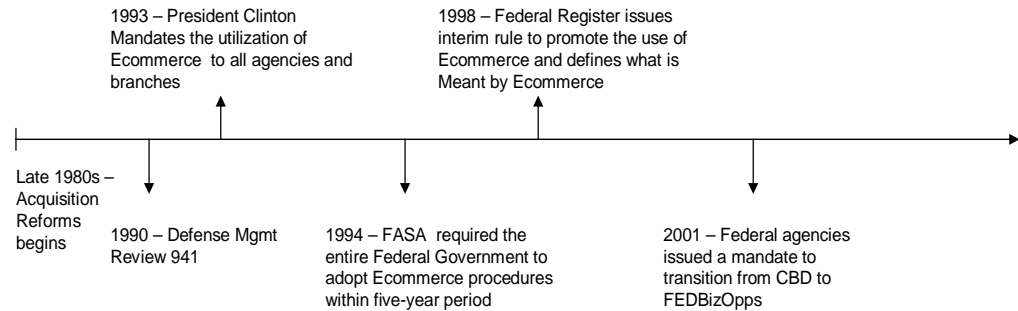


Figure 1. Timeline: Evolution of Ecommerce within the Federal Government. Developed by the researchers.

Beginning in the late 1980s, the need for reform in the acquisition processes and procedures became evident among government agencies as a result of reports relative to government waste, fraud and abuse. [Ref 4]

In 1990, Defense Management Review Decision 941 stated, "The strategic goal of the Department of Defense's current efforts is to provide the department with the capability to initiate, conduct, maintain its external business related transactions and internal logistics, contracting, and

financial activities without the required use of hard copy media." [Ref 9]

In a report to Congress, January 1993, the DoD Acquisition Law Advisory Panel, identified over 600 statutes that applied to DoD acquisition and recommended almost 300 laws for repeal or change, focusing its attention on changes that would streamline the defense procurement process in the 1990's when dollars are expected to be fewer, work forces smaller, and superpower security threats less urgent. [Ref 10] At the same time, Vice President Al Gore issued his 1993 National Performance Review (NPR), which reviewed government operations and made similar recommendations to those of the Panel. In an effort, to streamline and simplify the acquisition process, a move to an Ecommerce system was implemented. [Ref 10] According to the White House Memorandum for the Heads of Executive Departments and Agencies - The President's Management Council, the following were the objectives of the Ecommerce initiatives:

- An exchange of procurement information electronically between the private sector and the Federal Government to the maximum extent practical;
- To provide businesses, including small, small-disadvantaged, and women-owned businesses, with greater access to Federal procurement opportunities;
- Ensure that potential suppliers are provided simplified access to the Federal Government's Ecommerce system;
- Employ nationally and internationally recognized data formats that serve to broaden and ease the electronic interchange of data; and,

- Utilize agency and industry standards and networks to enable the Government and potential suppliers to exchange information and access Federal procurement data. [Ref 11]

With the full commitment of then President William Jefferson Clinton and the executive branch and agencies, NPR promised to create a government that works better and costs less by eliminating red tape and obtaining results. [Ref 10]

The Federal Acquisition Streamlining Act (FASA) passed on October 13, 1994, establishing a Government-wide Federal Acquisition Computer Network (FACNET), which converted the acquisition process overburdened with paperwork and red tape to an expedited electronic data interchange (EDI) system readily accessible to the public. [Ref 12]

The Federal Register dated October 30, 1998 stated the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council agreed on the interim rule which amended the Federal Acquisition Regulation (FAR) Section 850 implementation of the National Defense Authorization Act for Fiscal Year 1998 by eliminating FACNET specific terms and requirements and replacing them with more flexible Ecommerce policies. [Ref 5] The elimination was supported by the U.S. General Accounting Office (GAO), NSIAD-97-26, Acquisition Reform: Obstacles to Implementing the Federal Acquisition Computer Network (Letter Report), which listed the following findings:

1. Relatively few procurement actions executed through FACNET;

2. Department of Defense executed the majority of all FACNET procurement actions reported by federal agencies.
3. Difficulties doing business through FACNET overshadows any benefits gained;
4. Fourteen (14) out of the eighteen (18) agencies contacted rated the lack of (a) a sound infrastructure, (b) effective engineering and operational management and (c) a well-populated and fully functional centralized contract registration database as great or very great obstacles to effective FACNET implementation;
5. Agencies stated that the FACNET approach was out of step with new, cost-effective technologies, and buying practices;
6. FACNET is not producing expected benefits;
7. Award contracts of \$25,000 or less often take longer and required more resources;
8. Requires agencies to exchange information with multiple, often unknown vendors;
9. Agencies are typically more successful utilizing EDI to transmit high-volume, routine, and repetitive transactions, such as delivery orders under existing contracts and invoices with a small group of known suppliers;
10. Focusing on competitive contract awards may not have been a good approach and has contributed significantly to FACNET problems;
11. Leadership and management shortcomings;
12. Considerable uncertainty about what the Government-wide strategy for FACNET implementation. [Ref 13]

The aforementioned Federal Register stated, "in an effort to distribute acquisition-related information to

industry more quickly and economically, an electronic posting system is now being tested by several Federal agencies. This system will permit buyers to post solicitations and other pertinent information, in addition to notices directly to the Internet, thus, giving the seller access to this information through a single Government-wide point of entry. If testing demonstrates that this electronic posting system is capable of providing effective access to notices and solicitations through a single point of entry, consideration will be given by the Administrator of the Office of Federal Procurement and Policy (OFPP) to designating it as the single Government-wide point of entry (GPE), and the FAR will be changed accordingly." [Ref 5]

Since the publication of FAC 97-09, the OFPP studied the advantages and disadvantages of several electronic methods of disseminating federal procurement information, including FACNET, Commerce Business Daily Network (CBDNet), and the Electronic Posting System (EPS). It was the desire of OFPP to create a central point for electronic access to business opportunities, leverage the investment made by the private sector in commercial software and techniques, provide sellers with a consistent process for locating business opportunities, and provide government buyers a streamlined method of preparing and issuing solicitation information without disrupting current agency Ecommerce software. [Ref 13] OFPP decided the EPS was the best vehicle for meeting these objectives. The EPS was renamed to Federal Business Opportunities (FedBizOpps) and it became the designated single GPE to federal procurement opportunities. Federal agencies had until October 1, 2001,

to complete their transition to FedBizOpps. It is accessible at <http://www.fedbizopps.gov>.

Following are the policies and procedures for the establishment and use of electronic commerce in Federal acquisition as stated in the Federal Acquisition Regulation (FAR):

- FAR 4.500 Scope of Subpart. This subpart provides policy and procedures for the establishment of electronic commerce in Federal acquisition as required by Section 30 of the Office of OFPP Act (41 U.S.C. 426). [Ref 8]
- FAR 4.502 - Policy.

(a) The federal Government shall use electronic commerce whenever practicable or cost-effective. The use of terms commonly associated with paper transactions (e.g. "copy," "document," "page," "printed," "sealed envelope," and stamped") shall not be interpreted to restrict the use of electronic commerce. Contracting officers may supplement electronic transactions by using other media to meet the requirements of any contract action governed by the FAR (e.g., transmit hard copy of drawings).

(b) Agencies may exercise broad discretion in selecting the hardware and software that will be used in conducting electronic commerce. However, as required by Section 30 of the OFPP Act (41 U.S.C.

426), the head of each agency, after consulting with the Administrator of OFPP, shall ensure the systems, technologies, procedures, and processes used by the agency to conduct electronic commerce -

(1) Are implemented uniformly through out the agency, the maximum extent practicable;

(2) Are implemented only after considering the full or partial use of existing infrastructures, (e.g. the FACNET;

(3) Facilitate access to Government acquisition opportunities by small business concerns, small disadvantaged business concerns, and women-owned small business concerns;

(4) Include a single means of providing widespread public notice of acquisition opportunities through the Government-wide point of entry and a means of responding to notices or solicitations electronically; and

(5) Comply with nationally and internationally recognized standards that broaden interoperability and ease the electronic interchange of information, such as standards established by the National Institute of Standards and Technology.

(c) Before using electronic commerce, the agency head shall ensure that the agency systems are capable of

ensuring authentication and confidentiality commensurate with the risk and magnitude of the harm from loss, misuse, or unauthorized access to or modification of the information.

(d) Agencies may accept electronic signature and records in connection with Government contract. [Ref 8]

According to an August 16, 1999 article on Federal Computer Weekly (FCW) at FCW.COM, Mr. Paul Fontaine, Acquisition Reform Net (ARNet) Program Manager at General Services Administration (GSA), stated FACNET would be another gateway to EPS and although the 1998 Defense Authorization Bill eliminated mandatory use of FACNET many agencies, especially DoD, still use the system. [Ref 14]

C. CONTRACTING CONTINUUM

Varied size, complexity and methods of procurement are utilized within the DoD; thus, for the purpose of this research an overview of the contracting continuum which consist of six cycles to include the requirements, solicitation, evaluation/award, post award, contract pay and contract closeout cycles, will be discussed. This procurement cycle represents the life of a generic single procurement action beginning with the recognition of a need.

1. Requirements

Once a need is recognized within the department, a translation of that need must be defined, often requiring extensive technical effort, dependent upon the complexity

of the need. It is important that the need be defined in terms which both parties (i.e. government and industry) can interpret. This determines the success of the contract. [Ref 15]

2. Solicitation

The second cycle of the procurement process brings together the requirements and business conditions into the form of a solicitation. As a result, the contracting activity issues one of the following, dependent upon the complexity and dollar value:

a. Request for Quotation (RFQ) - A solicitation used in negotiated acquisition to communicate requirements to prospective contractors and to solicit a quotation. A response to an RFQ is not an offer; however, it is informational in character. [Ref 15] Requirements with estimated dollar value of \$100,000 or less utilize this method of acquisition.

b. Request for Proposal (RFP) - A solicitation used in negotiated acquisitions to communicate requirements to prospective contract(s) and to solicit proposal. [Ref 15] Requirements with estimated dollar value of \$100,000 and above utilize this method of acquisition. It may be used to solicit proposals from a single source under one of the seven conditions specified in FAR subpart 6.3 or from several sources.

c. Invitation for Bid (IFB) - An IFB is also referred to as Sealed Bidding, which provides a means of contracting that employs competitive bids, public opening of bids, and awards. This method is highly structured, with a mandate to carry out each step in a timely manner. It is designed

to allow the market place to determine a price at which the government acquires materials and services. [Ref 15]

3. Evaluation/Award

At this stage, the offer(s) are received for consideration/evaluation and award. Evaluation factors may or may not include criteria such as price order of preference (i.e. lowest to highest bid), and other non-price factors and responsibilities. Once the decision is this is considered the high point in the procurement process within the acquisition community. There are 21 types of contracts and 2 non-contractual types of ordering arrangements that can be identified in federal procurements. [Ref 15] The terms and conditions of a contractual agreement include the contract type, methods of determining payment and the award amount, based on performance of work specified in the contract.

4. Post Award

Performance and administration is the next step in the process. During this stage resources are consumed and the purpose of the procurement is accomplished. Upon completion, the product by evidence of shipment or the service rendered is offered for acceptance. Contract administration duties are performed by government personnel to ensure that procedures are accomplished in accordance with the contract requirements. [Ref 15]

5. Contract Pay

Upon acceptance of the product or service, payment and discharge follows. The contractor submits a requisition for products shipped or services rendered and payment is then issued by the cognizant Defense Finance and Accounting Service (DFAS). [Ref 15]

6. Contract Closeout

Once the product or service has been accepted and payment has been rendered, the next step is to closeout the contract. During this time an audit may be performed by the Administration Contracting Officer (ACO) dependent upon the dollar value and type of contract. This step completes the procurement process. [Ref 15]

D. UTILIZATION OF DOD ECOMMERCE TOOLS

In an effort to improve the way of doing business, Department of Defense has developed several Ecommerce tools to help facilitate the acquisition process, as shown in Figure 2.

Traditional Procurement Process and the Application of Ecommerce Tools

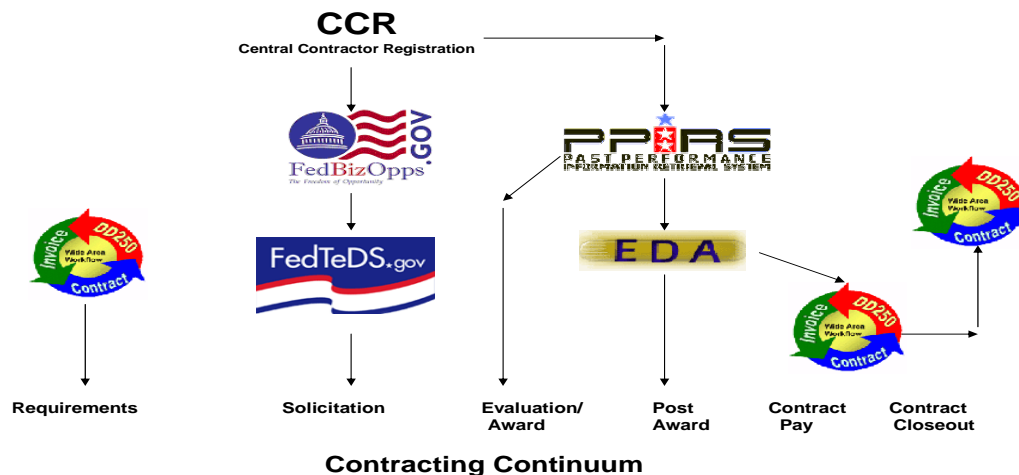


Figure 2. Traditional Procurement Process and the application of Ecommerce Tools. From: (Ref 16)

1. Wide Area Workflow

Wide Area Workflow (WAWF) is an automated system that allows vendors to electronically submit invoices and receive reports, and the Government to inspect, accept, receive and pay electronically. It provides complete visibility of the transactions to government and industry/vendor users throughout the process. It supports the President's Management Agenda item for E-Government and is a major component of the Department's compliance with the requirements of Section 1008 of the Fiscal Year 2001 National Defense Authorization Act concerning electronic invoicing. [Ref 17]

The WAWF system can be utilized during the requirements, contract pay, and contractor closeout cycle of the procurement process.

2. Ecommerce Tools - Solicitation Phase

a. Central Contractor Registration

The Central Contractor Registration (CCR) is the primary vendor database for all U.S. Government procurement and financial departments. It collects, validates, stores, and distributes vendor data. It was mandated on October 1, 2003, that all vendors intending to do business with the Federal government are required to register. [Ref 18]

b. Federal Business Opportunities

As defined earlier and further elaborated here, FedBizOpps is the single government point-of-entry (GPE) for Federal government procurement opportunities over \$25,000. Through the Vendor Notification Registration application, vendors are provided access to

synopsis/solicitation contact information and websites with supplemental information, as well as, access to resource information from an on-line Government procurement reference library. Additionally, vendors are able to search for synopses, modifications to synopses, solicitations, amendments to solicitations, contract awards, and related documents by Solicitation/Award Number, Dates, Place of Performance, Zip Code, Set-Aside Code, Procurement Classification Code, and Government agency. There is also an Acquisition Notification Service which allows vendors the opportunity to sign-up to receive procurement announcements by email. This can entail presolicitation and post-award notices and their amendments, notices of solicitation and solicitation amendment releases, and general procurement announcements. [Ref 19]

c. Federal Technical Data Solution

Federal Technical Data Solution (FedTeDS) is an online dissemination solution designed to safeguard sensitive, but unclassified acquisition related information. It allows acquisition professionals the opportunity to securely provide information such as specifications or blueprints to the vendor community. This system directly interfaces with FedBizOpps and the CCR. [Ref 20]

3. Ecommerce Tools - Post-Award Phase

a. Past Performance Information Retrieval System

Past Performance Information Retrieval System (PPIRS) is a web-enabled, Government-wide application that provides timely and pertinent contractor past performance

information to the Federal acquisition community for use in making source selection decisions. It assists Federal acquisition officials when making source selection decisions by serving as the single source for contractor past performance data. [Ref 21]

b. Electronic Document Access

Electronic Document Access (EDA) acts as an electronic file cabinet for the storage and retrieval of post award contract documents used by multiple DoD activities. It replaces the paper process with a single, read-only "electronic file cabinet" that can be accessed by any authorized user, within both DoD and vendor communities. [Ref 22]

4. Defense of Defense Electronic Mall (DOD EMALL)

DOD EMALL is another Ecommerce tool that can be utilized in acquiring goods and services within the Federal government. DOD EMALL is just another avenue for DoD and other federal customers to find and acquire off-the-shelf finished items from commercial marketplace. The DoD EMALL offers cost-store shopping for the purpose of comparison pricing and best value decision-making. All vendors meet FAR and Defense Federal Acquisition Regulation (DFAR) requirements and statutory requirements. The DoD EMALL is primarily composed of three corridors: parts and supplies, information technology, and training. It also provides a one-stop visibility of order status. DoD EMALL provides the benefits of reduced logistics response time and improved visibility of both Government and commercial source of supply, as well as facilitates the use of the Government purchase card. [Ref 23]

E. CHAPTER SUMMARY

The Federal Government spends approximately \$200 billion buying goods and services. But the red tape and burdensome paperwork of its acquisition process resulted in increased costs, unnecessary delays, and reduced Federal workforce productivity. [Ref 24] With the implementation of FASA initiatives such as the mandate to utilize Ecommerce within Federal agencies, DoD has made a commitment to reinvent itself by simplifying and expediting the process.

Another enhancement provided by Ecommerce tools is the lessons learned resource which allows acquisition professionals pertinent data which aids in selecting the best contract performers.

This chapter provided the history and evolution of that mandate and an overview of the Ecommerce regulatory requirements as stated according to the Federal Acquisition Regulation (FAR). It also provided a brief discussion of the traditional procurement process and the Ecommerce tools available to the Acquisition Workforce in their quest to perform their contracting of goods and services faster and better.

III. ECOMMERCE: CASE REVIEWS

A. INTRODUCTION

Chapter III presents the framework for outlining cases that were reviewed from the General Accounting Office (GAO) (Comptroller General), Agency Board of Contract Appeals (BCA), and Federal Court of Claims (FCoC) as they relate to Ecommerce. Though there were several cases reviewed, only those cases specifically dealing with Ecommerce in the realm of the tools as defined in the Federal Register are summarized and presented below.

B. DATA COLLECTION

The cases analyzed were the result of a search performed in Lexis-Nexis. Upon obtaining and reviewing the results each case was examined to ascertain its applicability to the area of research mentioned above.

As can be seen in Table 3.1, there were 46 cases identified in the Lexis-Nexis database, which covered a time span between 1994 to 2003. Lexis-Nexis is an online repository of legal cases heard through all levels of the United States Court System and Boards of Appeal. Lexis-Nexis is widely accepted as a highly reliable and exhaustive research tool for legal cases, current events and other information essential to a proficient data researcher.

Lexis-Nexis Library	Search Criteria	Results
Comptroller General	Electronic Commerce	31 Cases
Board of Contract Appeals	Electronic Commerce	13 Cases
Federal Court of Claims	Electronic Commerce	2 Cases

Table 3.1 - Summary of Data. Developed by the researchers.

Each case was reviewed in order to determine if the case dealt with Ecommerce from the perspective of alleged mishandling of offers submitted via the GPE, systemic problems relating to offers submitted via Ecommerce, timeliness of receipt of offers submitted via Ecommerce, or if the case originated as a result of the search criteria, "Electronic Commerce". The majority of the cases had to be read thoroughly in order to identify those which met the criteria. The following categories of data notes were taken:

- **Agency** - GAO, BCA, FCoC
- **Contracting Agency** - Army, Navy, Air Force
- **Case Number** - Docketed Number
- **Case Name**
- **Nomenclature** - Description of the item being procured.
- **Type of Claim** - Equitable Adjustment, Appeal of FCOC, etc.

- **Outcome** - Sustained, Denied.
- **Government Issue** - Government opinion as presented.
- **Contractor Issue** - Contractor issue as presented.
- **Salient Issue of Opinion** - Ruling activity opinion.
- **Researcher Notes.**

The review of the 46 cases revealed that only 6 dealt specifically with the issues mentioned earlier. Of these, five (5) were from the GAO and the remaining one (1) was from the BCA. In the following sections, a summary of the relevant cases are provided.

C. GENERAL ACCOUNTING OFFICE PROTEST CASES

1. Matter of: GROH GmbH, Case Number B-291980, March 26, 2003

The intent of this protest was to determine whether or not the contracting agency improperly rejected the offeror's proposal which was submitted via facsimile as late.

The protester asserts that its proposal submitted under the Department of the Air Force, Request for Proposal, for the repair of a military family housing playground was improperly rejected on the basis that it successfully transmitted its proposal by facsimile to the number identified in the solicitation prior to the closing date and time set forth for the in the solicitation.

This protest was denied because the solicitation incorporated Federal Acquisition Regulation (FAR) 52.215-1, Instructions to Offerors-Competitive Acquisition, which instructs offerors that, "unless other methods (e.g. electronic commerce or facsimile) are permitted in the solicitation, proposals, and modifications to proposals

shall be submitted in paper media..." [Ref 25] Additionally, though a facsimile number was present in block 7 of the solicitation's SF 1442, the solicitation did not include the clause FAR 52.215-5, Facsimile Proposals, which authorizes the submission of proposal by facsimile.

**2. Matter of: USA Information (USAInfo) Systems,
Case Number B-291488, December 2, 2002**

In this case, the protester argued that the Department of the Air Force amended the terms of the Request for Quotation (RFQ) by posting the amendment on-line with a short notice, thereby preventing them from timely protesting the amended solicitation's because they were not specifically advised of the amendment. The RFQ was issued to acquire a 1-year Internet-based network subscription service for military and engineering specifications, instructions, and regulations.

A pre-solicitation notice was issued in FEDBizOpps as a sole-source requirement to Information Handling Services, Inc. (IHS). USAInfo objected to the sole-source procurement, arguing that the line items were improperly bundled and requested that the Contracting Officer amend the RFQ to delete all references to the IHS' products, unique features and part numbers, and to un-bundle the line items. As a result of this request the Contracting Agency posted a RFQ amendment to the FEDBizOpps website which addressed USAInfo's concerns and extended the due date. USAInfo's counsel discussed additional concerns with counsel for the agency, who agreed to extend the due date again and further amend the solicitation. A second amendment was then posted to FEDBizOpps and extending the due date. Upon closing, the award was made to IHS.

USAInfo filed the protest one (1) week later, stating that it did not become aware of the existence of the amendment or the new due date for quotations until after the deadline, and argues that the manner in which the agency amended the solicitation-by posting it online while not notifying USAInfo was unreasonable.

GAO denied the USAInfo's protest and agreed with the Air Force on the basis that it was USAInfo's failure to make every reasonable effort to promptly obtain the amendment which led to their inability to timely file a protest or submit a quotation. Additionally, the record demonstrated that USAInfo did not avail itself of every reasonable opportunity to obtain the amendment as this was an electronic procurement conducted pursuant to FAR 4.5 and the FEDBizOpps site includes an email notification service which allows vendors to fill out a subscription form in order to receive notices associated with particular procurements. When amendments are issued to posted solicitations, the website automatically notifies registered users of the change via email. The email also contains a link to the location that the user can access to locate and download the amendment. USAInfo apparently did not avail itself of the registration feature of FEDBizOpps and accordingly did not receive the email notification. [Ref 26]

3. Matter of: Performance Construction, Inc., Case Number B-286192, October 30, 2000

In this case, the protester contends that the Naval Facilities Engineering Command inappropriately determined its proposal in response to their solicitation to procure the renovation of family housing as late due to the

unavailability of the agency's website on the date set for receipt of proposals.

The RFP was issued on the internet in accordance with FAR Subpart 5.102(a)(7), which provides that "if electronic commerce is employed in the solicitation process, availability of the solicitation may be limited to the electronic medium." [Ref 27] Offerors were informed that the solicitation, amendments, plans and specifications would be available only through the Internet and that "hard copies (paper) or CD-ROM" would not be provided. Offerors were invited but not required to register for the solicitation at the website; registered offerors were advised that courtesy emails would notify registered firms of solicitation amendments posted to the internet. Additionally, offerors were cautioned that it was the offeror's responsibility to check the website daily for amendments or other notices. The RFP also included FAR 52.215-1, which provides, in pertinent part, that late proposals would not be considered for award.

On the date proposals were due, Performance contacted the Navy Contract Specialist responsible for the solicitation to inform her that the Internet site was inaccessible and therefore they could not timely obtain the latest amendment which would leave them with insufficient time to prepare their proposal. The time for receipt of proposals was not extended and Performance hand-delivered its proposal, but it arrived after the time set forth for receipt of proposals. The Navy rejected Performance's proposal as late, but it received seven other proposals by the closing time for receipt of proposals.

GAO denied the protest and agreed with the Navy that it was Performance's failure to make reasonable efforts to promptly obtain the solicitation amendment that is the paramount cause of the late delivery of its proposal. Prospective offerors have an affirmative duty to make every reasonable effort to obtain solicitation materials. Performance did not avail itself to the email notification registration opportunity presented by the Navy's website and accordingly did not receive email notice of the latest amendment. Also, according to the documentation provided by the Navy, Performance did not check the Navy website prior to the closing date for the receipt of proposals to ascertain whether or not the solicitation had been amended. [Ref 27]

**4. Matter of: S.D.M. Supply, Inc., Case Number
B-271492, June 26, 1996**

S.D.M. Supply protested the U.S. Army Aviation Center's, Fort Rucker, AL award to New Pig Corporation as a small-business small-purchase set-aside for seven aerosol can puncturing systems on the basis that the agency failed to consider S.D.M.'s lower priced quotation which was timely submitted through the FACNET.

This case explained that FACNET was a government-wide electronic commerce/electronic data interchange of acquisition information between government and the private sector and that it employs nationally and internationally recognized data formats, and provides universal user access. It cited the Federal Acquisition Streamlining Act of 1994, 41 U.S.C. 426(a), b(3) (1994) and FAR Subpart 4.501.

The RFQ was issued through FACNET and was also mailed to New Pig and one other vendor. The solicitation stated

that quotations could also be submitted to the contracting office via facsimile transmission. Only one quote was received by the due date and it was from New Pig via facsimile transmission. Because no quotations were received through FACNET, the purchasing agent asked the office's computer systems administrator to verify that no quotations had been received on the office's computer. Upon confirmation from the systems administrator the Contracting Officer determined New Pig's quote fair and reasonable and made award. The award was posted on FACNET.

As a result of the award notification on FACNET, the contracting office received calls from three (3) other vendors, including the protester, complaining that they had submitted quotations through FACNET for this requirement and that their quotes were lower than New Pig's. S.D.M. filed an agency-level protest upon the Contracting Officer's decision not to cancel the purchase order.

The Contracting Officer denied S.D.M.'s protest because there was no evidence that failure to receive S.D.M.'s quotation was the result of government computer error or malfunction or by government mishandling.

S.D.M. then filed a GAO protest in which GAO sustained the protest on the basis that the agency failed to promote competition to the maximum extent practicable and failed to maintain adequate procedures for receiving quotations through FACNET, as evidenced by its loss of all of the quotations submitted through FACNET because of a previously identified systemic problem with its computer. [Ref 28]

**5. Matter of: Department of the Army -
Reconsideration, Case Number B-271492.2, November
27, 1996**

In this case the Department of the Army requested reconsideration of the decision made on the previously mentioned case (S.D.M. Supply, Inc., B-271492, June 26, 1996) on the basis that the decision contained factual errors and these errors may have caused the protest to be erroneously sustained. The contested statements were:

all transactions conducted over FACNET,
except the

issuance of RFQs, are acknowledged automatically by the end of the business day following the arrival of the transmission at its destination to notify the sender as to whether a transaction has been received, e.g. to notify a trading partner that its quotation has been received by the contracting agency. [Ref 29]

quotations...were received by the Standard Army Automated Contracting System (SAACONS) government computer gateway located at Fort Lee, Virginia, and relayed to Fort Rucker. [Ref 29]

the acknowledgement received by S.D.M. was generated by the SAACONS government gateway..." [Ref 29]

GAO's statements were based on information contained in the Federal Electronic Commerce Acquisition Instructions which was supplied by the protester, which it had obtained from the DoD Electronic Commerce Information Center. The instructions stated that "it is a function of the automated process that an acknowledgement will be transmitted by the end of the business day following the arrival of the transmission in the recipient's mailbox to notify the sender that a transaction has been accepted or rejected." [Ref 29]

The Army stated there was not a true end-to-end confirmation of the receipt of quotations over FACNET from the contracting office to the quoting trading partner as implied in the decision. However, according to the Army, once a government gateway computer receives a quotation from a trading partner through the trading partner's VAN to confirm the quotation has been received at the gateway and that the quotation has been transmitted to its intended destination, but the notice from the gateway computer does not verify that the contracting activity has actually received the quotation submitted over FACNET. [Ref 29]

The Army further clarified that the government computer gateway which processes the Army's FACNET transactions, and which acknowledged S.D.M.'s quote is the Standard Automated Contracting System (SACONS) versus "SAACONS". SAACONS is not a government computer gateway, but is the Army's automated contracting software and hardware business system, which along with other government business systems is supported by the SACONS gateway. [Ref 29]

In order to prevail on a request for reconsideration, the requesting party must demonstrate that the prior decision contained either errors of fact or law or present information not previously considered that warrants reversal or modification of the decision. In GAO's opinion, the Army did not demonstrate either; thus, the reconsideration was denied. [Ref 29]

D. BOARD OF CONTRACT APPEALS CASE

- 1. Matter of: Total Procurement Services, Inc. v
Department of the Army, GSBICA Number 13569-P,
May 23, 1996**

This protest alleges that because of the government's failure to include dashes in the solicitation number it resulted in the improper rejection of the offerors' quotation.

The U.S. Army Medical Command (MEDCOM), Fort Sam Houston, San Antonio, TX issued a Request for Quotation (RFQ) for notebook computers and related services and supplies pursuant to the procedures set forth in FAR 13, Simplified Acquisition Procedures, and FAR Subpart 4.5, Electronic Commerce in Contracting. [Ref 30]

This protest was the result of the protester attempting to transmit a proposal in response to a solicitation by the use of EDI utilizing dashes in the solicitation number. Because the Army's EDI system was not configured to accept proposals containing dash numbers the offeror's quote was not accepted through EDI.

The offeror stated in accordance with FAR (this is actually DFARS - Defense Federal Acquisition Regulation Supplement) Subpart 204.7002, Uniform Procurement Instrument Identification Numbers, was not adhered to by the Contracting Office; however, the Contracting Office argued that this regulatory requirement does not govern requirements issued via electronic commerce. [Ref 30]

The board denied the protest because it did not demonstrate by a preponderance of evidence that not only was the agency action a violation of the law, but it also did not demonstrate that it was prejudiced by a violation of the law in anyway. [Ref 30]

E. SUMMARY

This chapter outlined the data collection methodology used, and provided a brief overview of cases that dealt

with Ecommerce as set forth at the beginning of the chapter. An in-depth analysis of the data in this chapter is presented in Chapter IV.

IV. ECOMMERCE - CASE ANALYSIS

A. INTRODUCTION

This chapter provides an in-depth analysis of common themes of the cases presented in Chapter III. With the population of the cases being extremely small (only six of the 46 cases directly relating to the scope of this research in terms of Ecommerce) there were no statistical data that would lend to any meaningful trend analysis of the cases. Rather, recurring themes from all the cases as an aggregate are organized, presented and analyzed. The themes that are believed to be the most relevant are presented below.

After careful analysis of all cases, three themes emerged from the review. All cases are grouped into one of the three major themes and presented in the following pages. First, the protests occurred when it was related to either the alleged mishandling of proposals or untimely receipt of proposals relative to systemic or infrastructure problems. Particularly, as it related to an agency failing to promote competition to the maximum extent practicable due to systemic and procedural problems while using FACNET and acceptance of proposals submitted via facsimile transmission (FAR 52.215-1).

Second, the protests arose as a result of not maximizing the utility of the features available through an Ecommerce medium, such as FEDBizOpps.

Lastly, the protest arose as a result of a misinterpretation of a regulatory requirement which pertained to the uniformed procurement instrument

identification which does not mandate the inclusion of dashes for purposes of electronic data transmissions.

Each of the situations will be examined in-depth below. Specific cases and remarks from the GAO and BCA are used to support the general categories used above as well as some precedence setting cases cited in the text themselves. Arguments are based on recurring themes regardless of where the protests/cases were heard (GAO or BCA). The reader is reminded that each case was presented in Chapter III, and will only be briefly refreshed in this chapter.

B. CASE ANALYSIS

1. Protests - Alleged Mishandling of Proposals or Untimely Receipt Relative to Systemic or Infrastructure Problems

a. Matter of: S.D.M. Supply, Inc., Case Number B-271492, June 26, 1996

In this case the contracting agency attempted to use the FACNET system as a means to procure its requirement of seven aerosol can puncturing systems; however, for two companies the solicitation was also mailed to them. The solicitation also allowed for the submission of quotes via facsimile transmission. check all the way through

For this case, it is also important to understand how requirements posted in FACNET work. The solicitation data is entered into FACNET through a business application program on the agency's computer. This data is then electronically transmitted to a government gateway, which is a computer/communications system performing a variety of data management functions, such as converting business application program data into the proper data format for

subsequent transmission. Once the data is processed by the gateway, the information is transmitted to a network entry point, which is also government operated, and relayed to Value-Added Networks (VAN). VANs are private sector entities which provide information obtained from the FACNET to their customers who have registered to do business with the government and are known as trading partners. The trading partners submit quotations through FACNET to the contracting agency in the reverse order as previously described above. All transactions conducted over FACNET, except the issuance of RFQs, are acknowledged automatically by the end of the business day following the arrival of the transmission at its destination to notify the sender as to whether a transaction has been received, e.g. to notify a trading partner that its quotation has been received by the contracting agency.

The contracting agency only received one quote which was submitted by fax from a vendor who had also received the RFQ in the mail. The agency's attempts to verify with the systems administrator that no quotes had been received through FACNET resulted in the determination that the quote received was fair and reasonable; thus, award and notice of that award was placed on FACNET.

Though the agency's attempts to validate the process were admirable it did not adequately address the systemic and infrastructure problems which can arise when utilizing Ecommerce to acquire goods and services. The contracting personnel were inexperienced with the computer system and failed to check available computer system status reports, which would have indicated the existence of the problem; thus, were unaware of the problem preventing the receipt of

FACNET quotations prior to the issuance of the purchase order.

GAO discovered through a telephonic hearing that the Standard Army Automated Contracting System (SAACONS) (which was later corrected to "SACONS" in the Reconsideration case below) malfunctioned and that the protester's quote along with others were lost because of a transmission bottleneck located at the Ft. Rucker computer system, which had to be cleared before the quotations could continue to the contracting office destination, and that the problem was not discovered until after the contracting office had issued the purchase order.

According to GAO, "this case involves more than mere occasional negligent loss of a quotation. Instead the agency's loss of the protester's quotation was due to a systemic failure that resulted in the loss of all other quotations submitted for this RFQ through FACNET." [Ref 28] It stated that "...an agency, in order to satisfy its obligation under CICA to promote competition to the maximum extent practicable, must have adequate procedures to receive and safeguard quotes actually received, as well as to give them fair consideration." [Ref 28] And further stated that "the record here evidences that the agency did not have adequate procedures in place to ensure that quotations received through FACNET would be considered, and we sustain the protest on this basis." [Ref 28]

In analyzing this case it should also be noted that though the total dollar value of the award was \$4,473, the protester additionally complained that the aerosol can system was available on a General Services Administration Federal Supply Schedule contract at a lower price than what

it was awarded for, but the contracting agency personnel were unaware that it was listed in the schedule until after award. [Ref 28] Research indicates that the Purchase Card was not in place until 1998 which is two years after the occurrence of this case, so considering the use of the Purchase Card was not an option available for the contracting agency; however, rather than issuing a solicitation for this requirement the contracting agency could have placed an order against the schedule. This would have been more efficient and savings could have been reaped.

A case of this nature may have been one of the reasons why more flexible Ecommerce policies were implemented; thus, eliminating the mandate to use FACNET. This provided government buyers and vendors a streamlined method of electronically distributing and responding to government requirements by using a tool such as FEDBizOpps.

***b. Matter of: Department of the Army -
Reconsideration, Case Number B-271492.2
November 27, 1996***

In this case the Army is requesting reconsideration of the decision made on the aforementioned case because the contracting agency felt there were factual errors which needed to be identified; thus, warranting a reversal or modification of the decision to sustain the protest. However, GAO determined that neither the new information provided nor the factual errors identified warranted reversal or modification of their decision and the request for reconsideration was denied.

The protest was sustained because the evidence showed that the agency failed to satisfy its obligation under the Competition in Contracting Act of 1984, 10 U.S.C.

2304(g)(3) (1994), to promote competition to the maximum extent practicable, inasmuch as the agency did not have adequate procedures in place to ensure that quotations received through FACNET would be considered. Specifically, GAO found that the agency's loss of the protester's quotation was due to a systemic failure that not only resulted in the loss of quotations for this requirement through FACNET, but that similar systemic failures had occurred for other RFQs issued by Ft. Rucker. [Ref 29]

c. Matter of: GROH GmbH, Case Number B-291980, March 26, 2003

In this case a solicitation was issued which included FAR Clause 52.215-1, Instructions to Offerors-Competitive Acquisition; however, the contractor claimed that since the solicitation also had the presence of a facsimile number on the SF 1442 that the contracting agency mishandled faxed proposal which was submitted before the closing date.

GAO stated in its decision that even if they were to accept the company's interpretation of the solicitation as permitting the submission of proposals by facsimile, the firm's facsimile log, by itself did not establish that the Air Force timely received the firm's proposal. The transmission record is in the protester's control and it can be created or altered to support a protester's contentions. Nevertheless, agencies are required to provide all offerors the same information in order to ensure that the acquisition is conducted on an equal basis for all competing firms. In this case, though the facsimile number was included on the solicitation the clause 52.215-1 was also included in the solicitation and

it did not allow for the submission of proposals via fax.
[Ref 25]

2. Protests - The Result of Not Maximizing the Utility of Features Available Through the Ecommerce Medium

**a. Matter of: USA Information Systems, Inc.,
Case Number B-291488, December 2, 2002**

In this case the Air Force issued a pre-solicitation notice in FEDBizOpps for the procurement of a 1-year Internet-based network subscription service for various military and engineering specifications, instructions and regulations.

Though several amendments were issued in FEDBizOpps in response to the contractors requests, and the RFQ due date extended, the contractor protested the manner in which the Air Force amended the terms of the RFQ on the basis that by posting the amendment online with a short response time, without specifically advising the company, the agency prevented it from timely protesting the amended solicitation.

In this case, it was evident that the contractor did not avail itself of every reasonable opportunity to obtain the amendment. This was an electronic procurement conducted pursuant to FAR Subpart 4.5. The FEDBizOpps site includes an email notification service that allows vendors to fill out a subscription form in order to receive notices associated with particular procurements; thus, whenever amendments are issued to posted solicitations, the websites automatically notify registered users of the amendment by email.

It is the prospective offerors affirmative duty to make every reasonable effort to obtain solicitation

materials. Additionally, a prospective vendor bears the risk of not receiving a solicitation amendment unless it can show that the agency failed to furnish the amendment inadvertently after the firm availed itself of every reasonable opportunity to obtain the amendment, or the agency made a deliberate attempt to exclude the firm from competing. [Ref 26]

b. Matter of: Performance Construction, Inc., Case No. B-286192, October 30, 2000

This case was protested on the basis that the agency's website was unavailable on the date set for receipt of proposals and the agency's refusal to delay the proposal closing date. The protester alleged that the Navy's website was inaccessible on the proposal closing date; however, the Navy provided a portion of its website log for the morning of until the time for receipt of proposals, which consisted on 540 pages of single-spaced lines, each line showing an individual Internet access to the site on that closing date. [Ref 27]

The protester had not availed itself to make every reasonable effort to promptly obtain the solicitation amendment which was the paramount cause of the late delivery of its proposal. The Navy received seven other proposals by the closing time for receipt of proposals. In addition to the Navy's website log, it was also able to demonstrate that the contractor had not registered for the solicitation and therefore was not provided email notifications of solicitation amendments. The Navy also provided statements from the contract specialist and systems administrator that its website was operating throughout the opening period. [Ref 27]

3. Protest - Misinterpretation of Regulatory Requirement Pertaining to the Uniform Procurement Instrument Identification

a. Matter of: Total Procurement Services, Inc. v. Department of the Army, ASBCA No. 13569-P, May 23, 1996

In this case the protester alleges that the Army's failure to include dashes in a solicitation number resulted in the improper rejection of its electronically transmitted quotation. The premise of the protest was based upon FAR (should be DFARS) subpart 204.7002(c).

Wherein the contractor stated that the Army was in violation of FAR 204.7002(c) and quoted the paragraph as follows: "(c) Enter the basic PII number, including Federal supply contract numbers and any supplementary numbers, in the spaces provided on the solicitation, contract, or related instrument forms. Separate the major elements by dashes, e.g., N00023-90-D-0009. If there is no space provided on the form, enter the number in the upper right corner of the form and identify what it is (e.g., Supplementary Number N00023-90-F-0120)." [Ref 30] Upon researching the regulation it appears that there may have been a portion of the paragraph omitted, wherein it states in parenthesis "(not necessary in electronic transmission)" [Ref 31] after the statement "Separate the major elements by dashes, e.g. N00023-90-D-0009". [Ref 31] The researchers are unable to substantiate if the statement was in fact omitted or if this was the result of an amendment to the DFARS which occurred after May 1996 and which later amended the clause to incorporate the language "not necessary in electronic transmission". [Ref 31]

The contractor could have submitted its quote by mail, telecopy, or electronically using the same number the Army provided (without the dashes).

C. SUMMARY

The cases analyzed above have demonstrated the results of what can happen in an Ecommerce environment. The three (3) reoccurring themes discussed above were:

- Cases related to either the alleged mishandling of proposals or untimely receipt of proposals relative to systemic or infrastructure problems.
- Cases that occurred as a result of the failure to maximize the utility of the features available through an Ecommerce medium, such as FEDBizOpps.
- A single case which was the result of a misinterpretation of a regulatory requirement.

When utilizing Ecommerce tools it is paramount that both the agency and the contractor fully understand the tools being used and the associated regulatory requirements. This will allow both parties to fully benefit from the use of these tools.

V. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

The purpose of this chapter is to answer both primary and subsidiary research questions, to provide conclusions and to offer recommendations for further study based on the findings in this research.

B. ANSWERS TO RESEARCH QUESTIONS

The following primary and secondary research questions were addressed in the course of this thesis. Each question will be revisited and briefly addressed below:

1. Primary Research Question

Has the usage of Ecommerce, as an innovative contracting method, resulted in contract protests, disputes and litigations when applied to the Department of Defense acquisitions?

The GAO, BCA and FCoC cases examined within this thesis relative to the usage of Ecommerce tools in the DoD acquisition process offered a variety of information and lessons learned. Albeit relatively small in number, the usage of Ecommerce tools has in fact resulted in protest when improperly utilized or when regulatory requirements were misinterpreted. Thirteen percent (13%) of the 46 cases reviewed were directly related to the scope of this research. The commonality and trends realized in the cases will be provided in the secondary research question 2(b) below.

A review of rulings and decisions can offer the acquisition professional lessons learned to aid in the prevention of mistakes and mishaps common to the usage of Ecommerce Tools in the future.

2. Secondary Research Questions

a. How has Ecommerce evolved since its mandate in October 1993, particularly as it related to the Department of Defense?

Chapter II details the background and history of the Ecommerce mandate with the Department of Defense acquisition process. Although Ecommerce has been prevalent since the inception of the Internet within the private industry, its use within DoD was mandated by the former President William J. Clinton in October 1993. Ecommerce within the DoD acquisition process has evolved from a labor and paper intensive process to a virtually paperless contracting method with its own set of specific regulatory requirements. With the implementation of Ecommerce tools such as WAWF, CCR, FedBizOpps, FedTeDS, PPIRS, and EDA, a DoD requirement can go through the entire process without the generation of a single piece of paper. Chapter II also details how a generic DoD requirement flows through the acquisition process with the utilization of Ecommerce Tools.

b. Is there a commonality or trend in the protest and litigation cases associated with using Ecommerce tools?

Recurring themes were found in the case reviews in Chapters III and IV relative to the usage of Ecommerce Tools with the acquisition process. They are re-presented here:

- First, of the six cases presented, three were the result of protests occurring when it was related to either the alleged mishandling of proposals or untimely receipt of proposals relative to systemic or infrastructure problems. Particularly, as it related to an agency failing to promote competition to the maximum extent practicable due to systemic and procedural problems while using FACNET and acceptance of proposals submitted via facsimile transmissions (FAR 52.215-1).

- Second, two of the cases presented were the result protests occurring as a result of not maximizing the utility of the features available through an Ecommerce medium, such as FEDBizOpps.

- Lastly, only one protest arose as a result of the misinterpretation of a regulatory requirement which pertained to the uniformed procurement instrument identification which does not mandate the inclusion of dashes for purposes of electronic data transmissions.

c. Are there benefits relative to the usage of Ecommerce Tools?

Based upon the case analyses performed, as well as, the review of several articles and regulatory requirements it was determined that the benefits of Ecommerce tools should be addressed. Utilizing Ecommerce tools in the acquisition process offers such benefits as lower prices as discussed in the S.D.M Supply case. Other benefits such as increased buyer productivity and competition, improved management information, increased supplier opportunities, reduced lead times, improved payment processes, increased operating efficiencies and reduced direct costs are also realized. The benefits and examples are listed below:

1. Increased buyer productivity. By transforming to the electronic age, tedious tasks such as photocopying solicitation/award documents, mailing documents through the U. S. Post Office, and the inability to reach individuals by phone, can be overcome with the use of email. It eliminates unnecessary steps; thereby increasing productivity. By utilizing its Paperless Order Processing System (POPS), the Defense Logistic Agency (DLA) General Supply Center in Richmond identified \$24.5M in savings, with the elimination of unnecessary paperwork and reduced inventory and depot costs. [Ref 11]

2. Increased Competition. By creating tools such as FedBizOpps, businesses gain access to Federal acquisition opportunities instantaneously. [Ref 19] As of April 2004, it was stated that FedBizOpps supported a community of 22,923 authorized buyers in 101 Federal agencies and 512,012 registered vendors actively monitoring FedBizOpps

business opportunities 24 hours, 7 days a week, 365 days of the year. [Ref 32]

3. Improved Management Information. Information and data can be better tracked and controlled with the implementation of Ecommerce processes and procedures. It allows for more flexible reporting options, acquisition, financial and inventory planning. For example, the U. S. Navy Enterprise Resource Planning (ERP) Technology and DLA's Business Systems Modernization helped to solve many data management and process flow issues at the agency level. [Ref 33]

4. Increased Supplier Opportunities. Implementing Ecommerce process and procedures increase business opportunities for small, small disadvantaged, minority and large businesses. It broadens the supplier base and provides a more diverse group of businesses to compete for government contracts. With the creation of such Ecommerce tools as CCR the number of companies registered to do business with DoD increased from 20,000 in November 1997 to over 135,000 in February 1999. [Ref 34]

5. Reduced Lead Times. Administrative Lead Time (ALT) which is the number of days between the initiation of the procurement action and the award of the contract can be significantly reduced with the implementation of Ecommerce processes and procedures. According to the U. S. Army Aviation & Missile Command's (AMCOM) Strat Database the ALT for spares procurement have decreased by 53%. The ALT in FY 1998 was 144 days and as of 2nd Quarter FY 2004 the ALT was 76 days. [Ref 35] Additionally, Acquisition professionals at the Army Field Support Command (ASFC) (formerly Joint Munitions Command) were recognized in the

Army Acquisition, Logistics & Technology (AL&T) magazine for awarding an urgent requirement within 17 days for the movement of munitions from various CONUS locations. They utilized FEDBizOpps to solicit the requirement and by maximizing the utility of this Ecommerce tool they were recognized as professionals demonstrating the ability to quickly support customer needs by aggressively pursuing an innovative acquisition approach that was the best fit. [Ref 36]

6. Improved Payment Process. Payments for goods and services rendered are processed in a timely manner with the use of Ecommerce tools such as WAWF. Utilizing WAWF DCMA can process cost vouchers, finance payments, progress payments, and performance based payments electronically to DFAS. As of September 2003, WAWF processed in excess of 11,000 transactions for more than \$1.2 billion dollars. [Ref 33]

7. Increased Operating Efficiencies. Just as with their government counterparts, suppliers can become more efficient with the implementation of Ecommerce processes and procedures. Mundane tasks associated with paperwork can be eliminated, which eventually results in greater control, reduced costs and improved processes. For example Pacific Telesis (PacTel) eliminated 51% of its paper-based systems and lowered their costs per transaction from \$78.00 to \$0.48. [Ref 11]

8. Reduced Direct Cost. The cost of handling and managing a paper-based system can be reduced with the implementation of Ecommerce processes and procedures. Documents normally reproduced, mailed and stored can be automated and forwarded electronically. Texas Instruments

implemented EDI in its procurement organization and reengineered its business process, lowering its average cost to process a purchase order from \$49.00 to \$4.70. [Ref 11]

C. CONCLUSIONS

As a result of this study several conclusions can be drawn. First, with the relatively low percentage of protests, disputes and litigations involving the usage of Ecommerce tools has determined that the mandate has been fairly successful within DoD. Secondly, the trends and causes for protests, disputes and litigations discussed represented such things as the misinterpretation of regulatory requirements and failure to maximize the use of existing resources designed to assist in buying needs. This can also be found in the utilization of traditional DoD acquisition methods, processes and procedures. Thirdly, both private and public sectors have realized a significant amount of benefits with the utilization of Ecommerce tools.

D. RECOMMENDATIONS

The researchers would like to make the following recommendations concerning the utilization of Ecommerce tools to accomplish buying needs within DoD:

- 1. Allocate more resources for training.** In today's technological environment, utilizing Ecommerce tools has become very important to acquisition professional to accomplish the buying needs of DoD. Therefore, further training should be allocated, as it relates to Ecommerce

for the acquisition professional. Defense Acquisition University (DAU) or Defense Systems Management College (DSMC) should take the lead in developing an Ecommerce curriculum in which credits can be applied towards Defense Acquisition Workforce Improvement Act (DAWIA) Acquisition and Contracting Level Certifications. Agencies could also implement courses taught at the installation level to allow acquisition professionals to gain Continuous Learning Points (CLPs) in their continuous career development.

2. A knowledge management system should be put in place to capture lessons learned regarding the utilization of Ecommerce tools. Capturing the knowledge that is generated on a daily basis by acquisition professionals and making that information available to other professionals within an organization will enhance the learning process. Utilizing the lessons learned from other professionals may continue to help eliminate the mistakes and mishaps realized in utilizing Ecommerce tools.

3. Ensure acquisition professionals are utilizing existing Ecommerce tools to the maximum extent possible. Ecommerce mediums such as FedBizOpps, CCR, and PPIRS are not utilized to the maximum extent possible. Often time acquisition professionals are focused solely on getting a requirement on contract that they fail to input much needed data or information into the database which can aid in the generation of future acquisitions. Therefore, acquisition professionals should become more proficient in the usage of Ecommerce tools, making sure that this vital step in the acquisition process is not eliminated.

E. SUGGESTED AREAS FOR FURTHER RESEARCH

During this research, the researchers found several areas that warrant further investigation. These areas are presented first as a research question followed by a short discussion:

1. Do more resources need to be allocated towards the usage of Ecommerce? The scope of this thesis was limited to examining the issues relative to the utilization of Ecommerce tools in accomplishing the buying needs of DoD. Since this is such a broad field, the researchers did not determine the amount of resources presently allocated towards Ecommerce or if more resources are needed. Initially, new initiatives require a certain amount of funds for implementation purposes, i.e. training of personnel, integration of required software/hardware, etc. Once the initial funding has been expended the funneling of dollars tends to decrease. Since, technology changes daily, resources need to be made available for continuous upgrades and improvements. Further study might focus on how funding is made available, whether agencies received sufficient amounts for technological upgrades or improvements, and if so, are these funds utilized properly.

2. What is the cost savings associated with the utilization of Ecommerce processes and procedures versus the traditional methods of acquisitions? This thesis did not analyze the cost savings associated with the utilization of Ecommerce. In order to assess the actual costs and savings associated with Ecommerce, one must thoroughly examine internal and external systems,

personnel, and other associated cost drivers. It should address the cost to both government and industry to process an acquisition under the traditional method versus a fully automated method utilizing Ecommerce tools. A future study might focus on a single generic requirement within a specific agency determining the cost savings or the cost avoidances realized in accomplishing the acquisition.

LIST OF REFERENCES

1. Government Statistics: Ecommerce and the Electronic Economy, Barbara M. Fraumeni, Bureau of Economic Analysis, Marilyn E. Manser, Bureau of Labor Statistics, and Thomas L. Mesenbourg, Jr., Bureau of the Census.
2. Introduction to Electronic Business with the Department of Defense: A Handbook for Business.
3. Glossary of Acquisition Terms, Federal Acquisition Institute (FAI), December 1998.
4. Government Procurement Management, Stanley N. Sherman, Special Edition, 1999.
5. Federal Register, Federal Acquisition Regulation: Electronic Commerce in Federal Procurements, October 30, 1998.
6. Defenselink News Release, "Defenselink News Release entitled "Secretary Cohen Outlines 1999 Update on Defense Reform Releases "Partnering for Excellence" CD-ROM", March 1999.
7. Department of Defense (DoD) and the Joint Electronic Commerce Program Office (JECPO), Introduction to Electronic Commerce: A Handbook for Business, Overview, March 2001.
8. Federal Acquisition Regulation (FAR).
9. Executive Summary of the DoD Electronic Commerce in Contracting Process Action Team, 20 December 1993.
10. Defense Systems Management College (DSMC), Web-search, "What Led to Acquisition Reform?", Page 1 of 2.

11. Memorandum for the Heads of Executive Departments and Agencies - The President's Management Council, Subject: Streamlining Procurement Through Electronic Commerce, The White House, October 26, 1993.
12. Defense Systems Management College (DSMC), Web-search, "Federal Acquisition Streamlining Act (FASA)", Page 1 of 3.
13. United States General Accounting Office, Acquisition Reform: Obstacles to Implementing the Federal Acquisition Computer Network (Letter Report, 01/03/97, GAO/NSIAD-97-26).
14. FCW.COM, Feds Move Closer to a Single Face, Colleen O'Hara, August 16, 1999.
15. Defense Acquisition Acronyms and Terms, Defense Acquisition University, Tenth Edition, January 2001.
16. Web Search. Defense Procurement and Acquisition Policy Electronic Business (DPAP-EB), Acquisition Domain Website, Operational Projects Links, "Contracting Continuum", www.acq.osd.mil/dpap/ebiz, March 2004.
17. Memorandum for Secretaries of Military Department Chairman of the Joint Chief of Staff, Directors of Defense Agencies, Director, Administration and Management, Subject: Wide Area Workflow Implementation, February 6, 2003.

18. Web Search. DPAP-EB, Acquisition Domain Website, "Central Contractor Registration (CCR)", www.acq.osd.mil/dpap/ebiz/ccr, March 2004.
19. FBO Vendors Guide, www.fedbizopps.gov/FBO_Vendor_Manual.pdf, March 2004.
20. Web Search. DPAP-EB, Acquisition Domain Website, "Federal Technical Data Solutions (FedTeDS)", www.acq.osd.mil/dpap/ebiz/fedteds, March 2004.
21. Web Search. DPAP-EB, Acquisition Domain Website, "Past Performance Information Retrieval System (PPIRS)", www.acq.osd.mil/dpap/ebiz/ppirs, March 2004.
22. Web Search. DPAP-EB, Acquisition Domain Website, "Electronic Document Access (EDA)", www.acq.osd.mil/dpap/ebiz/eda, March 2004.
23. Web Search. DPAP-EB, Acquisition Domain Website, "DoD Electronic Mall (DOD EMALL)", www.acq.osd.mil/dpap/ebiz/emall, August 2004.
24. Memorandum for the Heads of Executive Departments and Agencies - The President's Management Council, Subject: Streamlining Procurement Through Electronic Commerce, The White House, October 26, 1993.
25. GROH GmbH, Comptroller General of the United States. No. B-291980, March 26, 2003.

26. USA Information (USAInfo) Systems, No. B-291488, December 2, 2002.
27. Performance Construction, Inc., No. B-286192, October 30, 2000.
28. S.D.M. Supply, Inc., Comptroller General of the United States, No. B-271492, June 26, 1996.
29. Department of the Army-Reconsideration, Comptroller General of the United States. No. B-271492.2, November 27, 1996.
30. Total Procurement Services, Inc. v. Department of the Army, ASBCA No. 13569-P, May 23, 1996.
31. Defense Federal Acquisition Regulation Supplement, 204.7002(c).
32. Government Technology Leadership Awards, GovExec.com, August 26, 2004.
33. Contract Management, "The Road Ahead: Enabling Strategic Acquisition in DoD", William Bishop, March 2004.
34. Defenselink U.S. DoD, "Secretary Cohen Outlines 1999 Update on Defense Reform Releases (Partnering for Excellence" April 29, 2003.
35. U.S. Army Aviation & Missile Command Strat Database for Spares, May 2004.

36. Army Acquisition, Logistics, & Technology (AL&T),
Contracting Successes, January - February 2004.

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